

Title (en)

General protection of an IC against overloading and electrostatic discharges

Title (de)

Allgemeine Schutzvorrichtung eines integrierten Schaltkreises gegen Überlastungen und elektrostatische Entladungen

Title (fr)

Protection générale d'un circuit intégré contre les surcharges permanentes et décharges électrostatiques

Publication

EP 0551038 B1 19960214 (FR)

Application

EP 92403550 A 19921223

Priority

FR 9116411 A 19911231

Abstract (en)

[origin: EP0551038A1] In an integrated circuit, a diode D2 is interposed between the semiconductor substrate and the lug for connection to an external bias voltage, and the substrate is biased to an internal voltage reference Vref2. A device for protection against permanent overloading 101 and a device for protection against electrostatic discharges 201 are arranged between each connection lug Pi of the integrated circuit and the semiconductor substrate. It is shown that, by insulating the semiconductor substrate from the external voltage sources V1, V2 and placing a protection device between each lug and the substrate, widespread general protection of the integrated circuit against all destructive phenomena such as overloading, positive or negative overvoltages, polarity reversal, and electrostatic discharges is obtained. <IMAGE>

IPC 1-7

H01L 27/02; H02H 9/04

IPC 8 full level

H01L 27/02 (2006.01)

CPC (source: EP US)

H01L 27/0248 (2013.01 - EP US)

Citation (examination)

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Cited by

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Designated contracting state (EPC)

DE FR GB IT

DOCDB simple family (publication)

EP 0551038 A1 19930714; **EP 0551038 B1 19960214**; DE 69208349 D1 19960328; DE 69208349 T2 19960704; FR 2685817 A1 19930702; FR 2685817 B1 19940311; US 5438213 A 19950801; US 5508548 A 19960416; US 7288450 B1 20071030

DOCDB simple family (application)

EP 92403550 A 19921223; DE 69208349 T 19921223; FR 9116411 A 19911231; US 36225694 A 19941222; US 79050499 A 19991130; US 99952792 A 19921229